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| APPLICATION NO.             | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.    | CONFIRMATION NO. |
|-----------------------------|-------------|----------------------|------------------------|------------------|
| 10/043,287                  | 01/14/2002  | Masakazu Ogasawara   | 041514-5212            | 5436             |
| 55694                       | 7590        | 02/03/2006           | EXAMINER               |                  |
| DRINKER BIDDLE & REATH (DC) |             |                      | AGUSTIN, PETER VINCENT |                  |
| 1500 K STREET, N.W.         |             |                      | ART UNIT               | PAPER NUMBER     |
| SUITE 1100                  |             |                      |                        |                  |
| WASHINGTON, DC 20005-1209   |             |                      | 2652                   |                  |

DATE MAILED: 02/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/043,287             | OGASAWARA ET AL.    |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | P. Agustin             | 2652                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 23 December 2005.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-3,9-14 and 18-20 is/are rejected.  
 7) Claim(s) 4-8 and 15-17 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                          |                                                                             |
|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                         | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                     | Paper No(s)/Mail Date. _____ .                                              |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|                                                                                                                          | 6) <input type="checkbox"/> Other: _____ .                                  |

## **DETAILED ACTION**

1. Claims 1-20 are now pending.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 12 & 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohba (US 5,892,744).

In regard to claim 1, Ohba discloses an optical pickup device (Figure 5) driven by an error signal (output of element 12) comprising: a grating element (11) for receiving a light beam to create zero order diffracted light,  $\pm$  first order diffracted light and  $\pm$  second order diffracted light when the light beam passes through the grating element (column 4, lines 57-60; column 5, lines 19-22); an optical system (101, 102, 10, 52 & 103) for focusing the zero order,  $\pm$  first order and  $\pm$  second order diffracted light on a recording surface of an optical recording medium (70) so as to form a spot (Figure 8, middle spot) of the zero order diffracted light on a first track (middle shaded track, which is a “land track”) extending on the recording surface, spots (first and last spots) of the  $\pm$  second order diffracted light on tracks adjacent to the first track (two non-shaded tracks, which are “groove tracks”), and spots (second and fourth spots) of the  $\pm$  first order diffracted light between the spot of the zero order diffracted light and the spots of the  $\pm$  second order diffracted light; and an optical detector (Figure 6, element 14) having first to fifth independent light-receiving elements (40, 41, 42, 43 & mislabeled 43), the first light-receiving

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element (40) being adapted to receive returning light from the spot of the zero order diffracted light, the second (41) and third (42) light-receiving elements being adapted to receive returning light from the spots of the  $\pm$  first order diffracted light, and the fourth (43) and fifth (43) light-receiving elements being adapted to receive returning light from the spots of the  $\pm$  second order diffracted light, to produce output signals used to create an error signal (column 5, lines 45-51).

In regard to claim 2, Ohba discloses that the first light-receiving element (40) includes four independent light-receiving portions adjacent to each other and partitioned by two division lines intersecting each other perpendicularly, one of the division lines being parallel to a track extending direction (as shown in Figure 6).

Claims 12 & 13 have limitations similar to those of claims 1 & 2; thus, they are rejected on the same basis.

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3 & 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohba.

For a description of Ohba, see the rejection above. However, in regard to claim 3, Ohba does not explicitly disclose that each of the second to fifth light-receiving elements includes at least two independent light-receiving portions adjacent to each other and partitioned by a division line extending substantially parallel to a track extending direction.

Official Notice is taken that both the concept and the advantages of light-receiving elements having at least two independent light-receiving portions adjacent to each other and partitioned by a division line extending substantially parallel to a track extending direction are notoriously old and well known in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention by the Applicant to have used light-receiving elements having at least two independent light-receiving portions adjacent to each other and partitioned by a division line extending substantially parallel to a track extending direction for the second to fifth light-receiving elements of Ohba, the motivation being to more accurately detect position errors of an optical pickup.

Claim 14 has limitations similar to those of claim 3; thus, it is rejected on the same basis.

6. Claims 9 & 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohba in view of Alon (US 5,959,953).

For a description of Ohba, see the rejection above. However, in regard to claim 9, Ohba does not disclose a crosstalk cancellation circuit connected with the first, fourth and fifth light-receiving elements for reducing an amount of crosstalk in the output signal from the first light-receiving element and originating from signals from adjacent tracks, based on the output signals from the fourth and fifth light-receiving elements.

Alon discloses a crosstalk cancellation circuit (Figure 2, element 33; Figure 7; column 10, lines 58-61) for reducing an amount of crosstalk in the output signal from a first light-receiving element (Figure 3A, element 50) and originating from signals from adjacent tracks (column 10, line 58 thru column 11, line 17). It would have been obvious to one of ordinary skill in the art at the time of the invention by the Applicant to have applied the teachings of Alon to

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the device of Ohba, the motivation being to compensate for crosstalks resulting from magnification errors caused by track pitch variations (column 3, lines 32-37).

Claim 18 has limitations similar to those of claim 9; thus, it is rejected on the same basis.

7. Claims 10, 11, 19 & 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohba in view of Imada et al. (US 5,404,344).

For a description of Ohba, see the rejection above. However, Ohba does not disclose: in regard to claim 10: an optical element for astigmatizing at least the returning light from the spot of the zero order diffracted light; and in regard to claim 11: that the optical element is a cylindrical lens positioned in an optical path of the returning light of the zero order diffracted light such that a center axis of the cylindrical lens extends at an angle of 45° to a track extending direction on the optical recordation medium.

Imada et al. disclose an optical element (Figure 2, element 7) for astigmatizing at least a returning light from a spot of a zero order diffracted light (see elements 8 & 9), wherein the optical element is a cylindrical lens positioned in an optical path of the returning light of the zero order diffracted light such that a center axis of the cylindrical lens extends at an angle of 45° to a track extending direction on an optical recordation medium (as shown in Figure 2; see also column 4, lines 10-30). It would have been obvious to one of ordinary skill in the art at the time of the invention by the Applicant to have applied the teachings of Imada et al. to the device of Ohba, the motivation being to provide astigmatism necessary to detect an error signal, thereby achieving accurate positioning of an optical head (column 2, lines 50-57).

Claims 19 & 20 have limitations similar to those of claims 10 & 11; thus, they are rejected on the same basis.

***Allowable Subject Matter***

8. Claims 4-8 & 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. See the Office Action mailed May 14, 2004 for a statement of reasons for the indication of allowable subject matter.

***Response to Arguments***

9. Applicant's arguments filed December 23, 2005 have been fully considered but they are not persuasive.

a. The Applicant argues on page 10, paragraph 2 that there is no teaching or suggestion in Ohba of a "five-beam" pickup arrangement, utilizing each of zero order, +/- first order and +/- second order diffracted light. This argument is not persuasive for three reasons. (1) This is not the claimed language. The last paragraph of claim 1 recites "an optical detector having first to fifth independent light-receiving elements, the first light-receiving element being adapted to receive returning light from the spot of the zero order diffracted light, the second and third light-receiving elements being adapted to receive returning light from the spots of the ± first order diffracted light, and the fourth and fifth light-receiving elements being adapted to receive returning light from the spots of the ± second order diffracted light, to produce output signals used to create an error signal", which recitation is taught by Ohba as noted in the rejection. There is no recitation of "utilizing each" of the zero, first, and second order diffracted lights. (2) Ohba does teach a "five-beam" pickup arrangement, as clearly shown in Figure 8. Furthermore, while there is no recitation of "utilizing each" of the zero, first, and second order diffracted

lights, Ohba nevertheless discloses utilizing each of zero order, +/- first order and +/- second order diffracted light (column 4, lines 57-65; column 5, lines 19-22; etc.)

(3) Inasmuch as the Applicant intends to argue in light of the claimed language, Ohba nevertheless teaches all claimed limitations, i.e., an optical detector (Figure 6, element 14) having first to fifth independent light-receiving elements (40, 41, 42, 43 & mislabeled 43), the first light-receiving element (40) being adapted to receive returning light from the spot of the zero order diffracted light, the second (41) and third (42) light-receiving elements being adapted to receive returning light from the spots of the  $\pm$  first order diffracted light, and the fourth (43) and fifth (43) light-receiving elements being adapted to receive returning light from the spots of the  $\pm$  second order diffracted light, to produce output signals used to create an error signal (note that G1 & G2 shown in Figure 5 are tracking error signals, each one corresponding to the claimed "an error signal").

b. In response to Applicant's arguments on page 11, paragraph 3 that Ohba does not discuss lands and grooves to any extent, the Applicant is directed to column 2, lines 7-12, which describes Figure 2, element 71 as a land portion and Figure 2, element 72 as a groove portion. Note that Figure 8 of Ohba has similar elements.

In response to Applicant's arguments on page 11, paragraph 3 that only the shaded vertical areas in Figure 8 of Ohba represent tracks, the Examiner maintains that the non-shaded area is also a track. It is well known that optical disks are formed with alternating tracks, one of which is a land track and an adjacent one being a groove track, as shown in Figure 8 of Ohba.

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c. The Applicant argues on page 12, paragraph 3 that Ohba does not disclose or suggest the claimed “so as to form a spot of the zero order diffracted light on a first track” and “spots of the +/- second order diffracted light on tracks adjacent to the first track”. The Examiner disagrees. As noted above, the Examiner maintains that the non-shaded area of Figure 8 is read to correspond to a track. The middle spot of Figure 8 is a zero order diffracted light, which is formed on a first track, which in this case is a land track. The first and last spots are  $\pm$  second order diffracted lights, which are formed on an adjacent track, which in this case is a groove track.

10. Applicant’s failure to adequately traverse the Examiner’s taking of Official Notice in the last Office Action is taken as an admission of fact(s) noticed.

*Conclusion*

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to P. Agustin whose telephone number is 571-272-7567. The examiner can normally be reached on Monday-Friday 9:30-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. L. Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

P. Agustin  
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BRIAN E. MILLER  
PRIMARY EXAMINER